Amendments to the Claims under 37 C.F.R. § 1.121

Claim 1 (currently amended): A reagent for detecting human papilloma virus (HPV) DNA in a cell sample which indicates the patient providing the cell sample is at risk for cancer, comprising a plurality of genomic HPV DNA probe sets; wherein:

(a) a first genomic HPV DNA probe set comprises a plurality of labeled nucleic acid fragments ~~having different nucleotide sequences~~ prepared by labeling essentially the full-length genomic sequence of HPV type 16 ~~that detectably hybridize to a plurality of different nucleotide sequences of essentially the full-length genomic sequence of HPV type 16~~,

(b) a second genomic HPV DNA probe set comprises a plurality of labeled nucleic acid fragments ~~having different nucleotide sequences~~ prepared by labeling essentially the full-length genomic sequence of HPV type 18 ~~that detectably hybridize to a plurality of different nucleotide sequences of essentially the full-length genomic sequence of HPV type 18~~,

(c) a third genomic HPV DNA probe set comprises a plurality of labeled nucleic acid fragments ~~having different nucleotide sequences~~ prepared by labeling essentially the full-length genomic sequence of HPV type 31 ~~that detectably hybridize to a plurality of different nucleotide sequences of essentially the full-length genomic sequence of HPV type 31~~,

(d) a fourth genomic HPV DNA probe set comprises a plurality of labeled nucleic acid fragments ~~having different nucleotide sequences~~ prepared by labeling essentially the full-length genomic sequence of HPV type 33 ~~that detectably hybridize to a plurality of different nucleotide sequences of essentially the full-length genomic sequence of HPV type 33~~,

(e) a fifth genomic HPV DNA probe set comprises a plurality of labeled nucleic acid fragments ~~having different nucleotide sequences~~ prepared by labeling essentially the full-length genomic sequence of HPV type 35 ~~that detectably hybridize to a plurality of different nucleotide sequences of essentially the full-length genomic sequence of HPV type 35~~, and

(f) a sixth genomic HPV DNA probe set comprises a plurality of labeled nucleic acid fragments ~~having different nucleotide sequences~~ prepared by labeling essentially the full-length genomic sequence of HPV type 51 ~~that detectably hybridize to a plurality of different nucleotide sequences of essentially the full-length genomic sequence of HPV type 51~~;

wherein the ~~proportion of total HPV DNA in the reagent that comprises nucleic acid~~

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~~fragments of the first genomic HPV DNA probe set and the proportion of total HPV DNA in the reagent that comprises nucleic acid fragments of the third genomic HPV DNA probe set are decreased relative to the proportions of the total HPV DNA in the reagent that comprise nucleic acid fragments of the other HPV DNA probe sets~~ labeled nucleic acid fragments of the genomic HPV DNA probe sets detectably hybridize to the genomic sequence of HPV types 39, 45, 52, 56, 58, 59, 68 and 70 in addition to detectably hybridizing to the genomic sequence of HPV types 16, 18, 31, 33, 35, and 51;

and wherein the labeled nucleic acid fragments of the genomic HPV DNA probe sets do not detectably hybridize to the genomic sequence of ~~a low-risk~~ HPV types 42, 43, or 44.

Claims 2-6 (cancelled).

Claim 7 (currently amended): The reagent of claim 1, wherein:

(a) the plurality of labeled nucleic acid fragments of the first genomic HPV DNA probe set constitute about 8.3% of the total HPV DNA in the reagent,

(b) the plurality of labeled nucleic acid fragments of the second genomic HPV DNA probe set constitute about 20.8% of the total HPV DNA in the reagent,

(c) the plurality of labeled nucleic acid fragments of the third genomic HPV DNA probe set constitute about 8.3% of the total HPV DNA in the reagent,

(d) the plurality of labeled nucleic acid fragments of the fourth genomic HPV DNA probe set constitute about 20.8% of the total HPV DNA in the reagent,

(e) the plurality of labeled nucleic acid fragments of the fifth genomic HPV DNA probe set constitute about 20.8% of the total HPV DNA in the reagent, and

(f) the plurality of labeled nucleic acid fragments of the sixth genomic HPV DNA probe set constitute about 20.8% of the total HPV DNA in the reagent.

Claims 8-16 (cancelled).

Claim 17 (previously presented): A kit for detecting human papilloma virus DNA in a sample comprising a container containing the reagent of claim 1.

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Claim 18-22 (cancelled).

Claim 23 (currently amended): The reagent of claim 1, wherein ~~the nucleic acid fragments of the genomic HPV DNA probe sets do not detectably hybridize to the genomic sequence of a low-risk HPV type under hybridization conditions of about 45°C in a buffer comprising 2X SSC and 2% BSA~~ the proportion of total HPV DNA in the reagent that comprises labeled nucleic acid fragments of the first genomic HPV DNA probe set and the proportion of total HPV DNA in the reagent that comprises labeled nucleic acid fragments of the third genomic HPV DNA probe set are decreased relative to the proportions of the total HPV DNA in the reagent that comprise labeled nucleic acid fragments of the other HPV DNA probe sets.

Claim 24 (new): The reagent of claim 1, wherein nucleic acid fragments that do not detectably hybridize to the cell sample are removed by washing the sample at about 45°C in a buffer comprising 2X SSC and 2% BSA.

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